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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,839

02/18/2004

Kevin D. Kincaid

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EXAMINER

MCCREARY, LEONARD

ART UNIT

PAPER NUMBER

3616

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,839

Applicant(s)

KINCAID, KEVIN D.

Examiner

Leonard J. McCreary, Jr.

Art Unit

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2 and 7-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,259,042 to David in view of US 6,272,412 to Wu et al. David discloses vehicle safety apparatus having an occupant weight determining system comprising the following:

- a. An integrated occupant and crash sensing control unit for a motor vehicle, comprising: a first processor 28 (col 3, lines 21-24); a pressure sensor interface 40 coupled between the first processor and a pressure sensor 36, wherein the pressure sensor provides a pressure signal to the first processor, the pressure signal providing an indication of a weight of an occupant of a seat of a motor vehicle; a safety belt tension sensor interface 42 coupled between the first processor and a safety belt tension sensor 38, wherein the belt tension sensor provides a tension signal to the first processor, the tension signal providing an indication of a tension within a safety belt 34 associated with the seat; and an accelerometer 30 (col 3, lines 25-39) coupled to the first processor, and wherein the first processor provides an activation signal to a restraint device 20

responsive to the pressure signal, the tension signal and the deceleration signals (claim 1.)

b. A remote crash sensor interface 32 coupled between the first processor and a remote crash sensor 30, wherein the remote crash sensor provides a crash signal to the first processor, the crash signal indicating whether the motor vehicle has experienced a collision, and wherein the first processor provides an activation signal to the restraint device responsive to the pressure signal, the tension signal, the deceleration signals and the crash signal (claims 2, 9)

c. The restraint device is an airbag 22 (claims 7.)

d. An integrated occupant and crash sensing control unit for a motor vehicle, comprising: a first processor 28 (col 3, lines 21-24); a pressure sensor interface 40 coupled between the first processor and a pressure sensor 36, wherein the pressure sensor provides a pressure signal to the first processor, the pressure signal providing an indication of a weight of an occupant of a seat of a motor vehicle; a safety belt tension sensor interface 42 coupled between the first processor and a safety belt tension sensor 38, wherein the belt tension sensor provides a tension signal to the first processor, the tension signal providing an indication of a tension within a safety belt 34 associated with the seat; and an accelerometer 30 (col 3, lines 25-39) coupled to the first processor, and wherein the first processor provides an activation signal to an airbag 22 responsive to the pressure signal, the tension signal and the deceleration signals (claim 8.)

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David teaches the use of various sensors (col 3, lines 25-39), but does not specifically teach the use of a dual axis accelerometer. Wu discloses a passive restraint control system for vehicles comprising a dual axis accelerometer 40 (col 3, line 3.) Re claims 1 and 8, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety apparatus of David to include a dual axis accelerometer as taught by Wu so as to monitor longitudinal and lateral accelerations (col 3, lines 6-17.)

3. Claims 3-4, 10-11, 14-17, and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,259,042 to David in view of US 6,272,412 to Wu et al and in further view of US 6,717,289 to Baumgartner et al. The disclosure of David is discussed above. David further disclosed the following:

- e. A rollover sensor (col 3, line 39) coupled to the first processor (claims 3, 10, 16.)
- f. An integrated occupant and crash sensing control unit for a motor vehicle, comprising: a first processor 28 (col 3, lines 21-24); a pressure sensor interface 40 coupled between the first processor and a pressure sensor 36, wherein the pressure sensor provides a pressure signal to the first processor, the pressure signal providing an indication of a weight of an occupant of a seat of a motor vehicle; a safety belt tension sensor interface 42 coupled between the first processor and a safety belt tension sensor 38, wherein the belt tension sensor provides a tension signal to the first processor, the tension signal providing an

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indication of a tension within a safety belt 34 associated with the seat; and an accelerometer 30 (col 3, lines 25-39) coupled to the first processor, and wherein the first processor provides an activation signal to a restraint device 20 responsive to the pressure signal, the tension signal and the deceleration signals (claim 14.)

David teaches the use of various sensors (col 3, lines 25-39), but does not specifically teach the use of a dual axis accelerometer, nor does he disclose a second processor coupled to the accelerometer, the second processor providing an override signal, nor an energy reserve circuit. Wu discloses a passive restraint control system for vehicles comprising a dual axis accelerometer 40 (col 3, line 3.) Re claims 1 and 8, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety apparatus of David to include a dual axis accelerometer as taught by Wu so as to monitor longitudinal and lateral accelerations (col 3, lines 6-17.) Baumgartner discloses a method of controlling an emergency power source in a vehicle occupant protection system and teaches the following:

g. A rollover sensor 22 coupled to the first processor 24, a second processor 16 coupled to the dual axis accelerometer 20, the second processor providing an override signal that prevents the activation signal from activating the restraint device when the second processor determines that the lateral and longitudinal deceleration signals indicate that deployment of the restraint device is not warranted (col 4, lines 23-35) (claims 3-4, 10-11, 16-17.)

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- h. An energy reserve circuit 28 coupled to the first processor and a plurality of sensors, wherein the energy reserve circuit provides power to the first processor and the sensors for a limited period of time following a collision (col 5, lines 7-11) (claim 14.)

Re claims 3-4, 10-11, and 16-17, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety apparatus of David to include a second processor and an override signal as taught by Baumgartner so as to prevent unwanted deployment of a restraint device below a minimum threshold deceleration (col 4, lines 23-35.) Re claim 14, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety apparatus of David to include an energy reserve circuit as taught by Baumgartner so as to provide power to the occupant protection system should the primary circuit become disconnected in a vehicle collision (col 1, lines 34-40.)

- 4. Claims 5 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,259,042 to David in view of US 6,272,412 to Wu et al. and in further view of US 6,292,759 to Schiffmann. The disclosure of David is discussed above. David does not specifically teach the use of an angular rate sensor, nor a vertical accelerometer. Schiffmann discloses a vehicle attitude angle estimation apparatus comprising the following:

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- i. A rollover sensor including an angular rate sensor 13 and a vertical accelerometer 21 for measuring an angular acceleration and a vertical acceleration, respectively, of the motor vehicle (col 1, lines 35-45) (claims 5, 12.)

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety device of David to include a rollover sensor having an angular rate sensor and a vertical accelerometer as taught by Schiffmann so as to react to a vehicle rollover condition with increased accuracy by deploying an appropriate occupant protection device (col 1, lines 8-21.)

5. Claims 6, 13, and 18-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,259,042 to David in view of US 6,272,412 to Wu et al., in further view of US 6,717,289 to Baumgartner et al., and in further view of US 6,292,759 to Schiffman. The disclosure of David is discussed above. David does not specifically teach the use of an angular rate sensor, nor a vertical accelerometer. Schiffmann discloses a vehicle attitude angle estimation apparatus comprising the following:

- j. A rollover sensor including an angular rate sensor 13 and a vertical accelerometer 21 for measuring an angular acceleration and a vertical acceleration, respectively, of the motor vehicle (col 1, lines 35-45) (claims 6, 13, 18, 19.)

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the vehicle safety device of David to include a rollover sensor having an angular rate sensor and a vertical accelerometer as taught by Schiffmann so as to

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react to a vehicle rollover condition with increased accuracy by deploying an appropriate occupant protection device (col 1, lines 8-21.)

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard J. McCreary, Jr. whose telephone number is 571-272-8766. The examiner can normally be reached on 0700-1700 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Leonard J. McCreary, Jr.
Examiner
Art Unit 3616



PAUL N. DICKSON
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